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When a student enters a science class at the start of the semester, how often does the science teacher consider the student's attitude toward science? Usually our concern is about his background in science, his intelligence, or if he will be a discipline problem. These areas are perhaps important but a study by DeRose (2) also reveals the importance of attitude. He indicates that the achievement of students in a particular class may depend to a large extent on the attitude of students toward that class.

To determine what effect the two approaches to teaching BSCS Biology had on the development of student attitudes toward science, two instruments were given on a pretest and posttest basis. They were the *Silance Attitude Scale* (SAS (11) and the *Prouse Subject Preference Survey* (PSPS) (8).

Both of these scales, in Table 1, revealed an improvement in attitude toward science by students in the individualized class. In each case the individualized class showed greater improvement in their attitude toward science on the adjusted posttest mean than did students in the group approach. This difference was great enough on the PSPS to be statistically significant. The evidence of this study supports the conclusion that students in an individualized approach to BSCS Biology develop a better attitude toward science than do students in a group approach.

The results of this study are supported by studies conducted by Dutton (3), Ramsey and Wiandt (9), Zeschke (12), and Richard (10). They reported that students experiencing individualized instruction in science developed favorable attitudes toward science. Davis (1) and Mahan (7) also conducted studies in the development of attitudes by varying the approach used in teaching science. Their results also supported the contention that student attitudes toward science are influenced by the approach used in teaching science.

When a student enters a science class he usually has, to some degree, already developed some kind of attitude toward science. Will the approach to science instruction that you are employing help or hinder the development of a favorable attitude toward science? Will the student have the opportunity to develop his interests in science? Will he be able to seek solutions to his individual needs in science? Will he be challenged or bored by science? Will he be actively involved in studying science through the processes of sci-

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ence? Will he be forced to progress with the total group, or will he be allowed to extend and limit his progress as he feels necessary? These are real questions that we as science teachers need to consider.

Table 1

Analysis of Covariance Results for the Attitudes of Students Toward Science

$H_0 : \mu_G - \mu_I = 0$	$\alpha = 0.05$	$N_G = 20$
$H_1 : \mu_G - \mu_I \neq 0$	$F(1,37) = 4.105$	$N_I = 20$

Instrument	Approach: Group (G) Individualized (I)	Adjusted Posttest Mean	F
Silance Attitude	G	7.79	
Scale	I	8.11	0.40
Prouse Subject	G	3.07	
Preference Study	I	4.08	6.81*

(*) *Statistically significant difference*

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